THE VALUE OF NUTRITION SUPPORT SERVICES AS A TEACHING AID*

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We have reached a point in this conference when we all know the problem. The question is how to solve it with sufficient flexibility that the mechanism could be usefully applied to different medical schools. I have conducted a nutrition teaching program in a medical school for nine years, and I hope I have learned something in that time.

My definition of clinical nutrition is nutritional science as it relates to human health and disease. This is very broad, and obviously many aspects of clinical nutrition are taught by other subspecialties.

The Albany program has three goals. First, that medical students and house staff graduating from our training program should feel comfortable and competent in handling common nutritional problems. All of us know that 90% of the patients in an internist's office practice have disorders with a nutritional aspect, whether obesity, hypertension, adult-onset diabetes, cirrhosis, or cancer cachexia. We also know that a physician who practices pediatrics has to be competent and comfortable with answering all reasonable parental questions about feeding children. We know that it is important for surgeons, if they are going to do anything beyond minor surgery, to be familiar with enteral and parenteral support. For these reasons, students and house staff are usually clear in their minds what nutrition teaching they need, and a medical school nutrition teaching program must meet these expectations. An academic clinical nutrition program has two further goals. Such programs have a special mission to attract talented young physicians to consider a career in clinical nutrition, and the program must expect to contribute to the science of this new clinical focus, which obviously means research.

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If these are the goals, what is the strategy? We have discussed at length what we think clinicians need to know about nutrition. I agree that this should start early, and there are various places in the freshman and sophomore curriculum where it can be appropriately presented. After 10 years of experience, I suggest that the major reinforcement and thrust of this teaching must come in the junior and senior clinical years. Unless students and house staff can identify with a clinician who demonstrates the importance of nutrition and can describe in conferences the impact of malnutrition on patient outcome, clinical nutrition teaching can never get to first base. Unfortunately, providing a physician role model is a difficult problem, because there are as yet few potential teachers qualified to provide this faculty model.

It is in the clinical years that rhetoric becomes reality—and, if the institution can't provide this kind of role model, then I would answer Dr. Kuperman, "Even if I provide you with a model curriculum, reference tests, audio/visual teaching mechanisms, case histories, a nutrition teaching effort won't get off the ground!"

As Dr. Hamoui suggested, there is an academic conundrum, for to teach nutrition effectively it is necessary to some extent to create a certain aura of specialist. Yet another specialist, another dividing of the clinical pie! Ironically, having created the specialist, the job actually reverses and the thrust becomes that of disseminating and infiltrating all the general medical teaching where nutrition has some pertinence. Further, I accept that the average medical student, for better or for worse, has a very racy view of his clinical training; he is most excited by what is happening in an acute care setting. The clinical nutritionist has to demonstrate his role in such critical care management and he has a very good endoscope, a very good artificial kidney in that he knows better than anybody else how to deliver complex nutritional support successfully. Nutritional support, even though it does take weeks or even months, is dramatic. If you can provide this rehabilitation in the inpatient setting and even get some of these patients whom the house staff and students have seen, week in and week out, deteriorating, home on nutritional support; then, when students meet them again functioning and restored, such clinical results become a very powerful teaching tool.

While only a few clinicians need to know, in intricate detail, what complex, long-term total parenteral nutrition involves, once you have created a profile as an important, contributing physician to patient management, this recognition provides a platform to teach much broader

issues. Thus, a nutrition-support team may very well find the opportunity to extend nutritional teaching to more chronic-care issues. For instance, in Albany in the third year we teach all students rotating through pediatrics about infant feeding, we teach all the surgical clerks about nutritional support, and we teach the obstetric and gynecological students about nutrition in pregnancy and lactation. It is in specialty clinical rotations that the students really want very specific nutrition information.

Maybe a third of the patients admitted to the hospital have problems that warrant some nutrition education. It is necessary to identify such patients as they enter the ward, and, having identified them, it is important to organize good nutritional education opportunities. In large measure, this service may be provided by R.D. nutritionists, rather than M.D. nutritionists. However, if done in medical school and the nutritionist has had some background in teaching, it can be very useful to expose medical students and residents to such nutritional education. Most family practice residents, for example, would welcome nutrition instruction to understand what the current concepts are of managing patients with diabetes or type II hyperlipoproteinemia. They would not find that irrelevant if the teaching were done well.

In the same vein, it is important to identify on admission patients at risk for, or who have already developed, nutritional depletion. Obviously, recognizing these patients has to trigger some kind of intervention mechanism. In many institutions, a nutrition support service becomes involved with such patients. Characteristically, such a service includes a dietitian, a physician who often provides the leadership, a nurse, and a pharmacist. The team helps depleted patients through their acute crises. Perhaps most difficult of all, and this dilemma exists in every hospital, is how the team gets permission to intervene with a physician's private patient. Obviously, the physician has got to be willing to let the team help. This is a very sensitive area.

Let me now briefly discuss some problems in teaching nutrition from a clinical service base. First is the question of a limited clinical purview. A six-year-old child, for example, who, because of severe gastroschisis, has been maintained by total parenteral nutrition since birth, if used to teach, risks an excessive focus on total parenteral nutrition. That would be too narrow an offering. One must use such unique patients as a starting point to teach many aspects of nutritional biochemistry, nutrient metabolism, and requirements.

Funding a clinical nutrition teaching service is another problem. To

do this seriously requires start-up funds for teaching and some start-up funds for a nutrition laboratory. Some outside funds have to be ongoing, for, although in a few years one can reasonably expect clinicians to develop a fee-for-service basis and one can expect a laboratory to be doing enough routine procedures that it will generate its own financial support, the postdoctoral training function will always require money. This is true for all clinical fellowships. I think that agencies, both federal and private, who want to support nutrition education in medical schools should consider offering a start-up grant for three to five years and then taper their support to a training grant for fellows. Perhaps the training grant should provide only 50% of the fellowship funds to ensure that the institution is serious and provides matching dollars.

A last comment on the issue of staffing: I think there is a potential danger in starting clinical nutrition enterprises as separate divisions. There is ultimate validity to equal status but not without equal size and a good deal of experience. We in Albany are still part of the department of gastroenterology; it is an advantage if initially a more established clinical specialty will accept some of the administrative hassle and provide some additional coverage. Until two or three people can genuinely cover this major clinical enterprise, it is better to accept help because an attempt to provide a nutritional support team single handed may fall flat on its face! Acute care medicine requires availability, 24 hours a day.

Rather than tell your institution that many extra personnel are needed for a nutrition-support service, suggest instead that one will generate funds and limit potential escalating costs. In this particular day and age, all pharmacists know how expensive total parenteral nutrition solutions are, and therefore the administration wants to address issues of cost containment. For example, many institutions use larger volumes of parenteral amino-acid solutions, and may spend $200,000 a year on that particular item. If a nutritional support service offers to put some rationale into that extremely costly area, it can probably get a pharmacist's time and perhaps even a nutritionist's and nurse's time.

Finally, academic survival requires a critical mass. Any department in an academic institution has to be large enough to allow time off-service. One cannot possibly conduct a nutritional support service, year in and year out, and still be active in research. Unfortunately, this means that the deans have to find positions for two and possibly three people in their economy package.

Question and Answer

DR. JUDITH WYLIE-ROSETT: Dr. Howard, you made several suggestions in terms of how to set up the program. Are funds currently available from N.I.H. or elsewhere? Or are there possibly other sources of funding, because all of us in institutions are facing "How do we start that kind of thing?" I know that at least two of our affiliated hospitals might consider it, but I think that it is a matter of start-up money.

DR. HOWARD: I think there have been several attempts to list both federal and private sources which are sympathetic and interested in nutrition. In Albany we started with a seed grant from the Nutrition Foundation.